

REMARKS

Reconsideration of the present application is respectfully requested.

Summary of Office Action

Claims 1, 12 and 29 are provisionally rejected for nonstatutory obviousness type double patenting based on copending application number 11/10 2,422. Claims 1-49 stand rejected under 35 U.S.C. § 102(b) based on U.S. Patent no. 5, 649, 099 of Theimer et al. ("Theimer"). Claims 12 and 42 stand rejected under 35 U.S.C. § 103(a) based on Theimer in view of "Storage Management Solution for Distributed Computing Environments," October 1996, Hewlett-Packard Journal. Claims 17 and 46 stand rejected under 35 U.S.C. § 103(a) based on Theimer in view of European patent application number EP 1 100001 A2 t.

Summary of Amendments

Claim 48 has been amended and claimed 49 has been canceled. No claims have been added. No new matter has been added.

Discussion of Rejections

Provisional Obviousness-Type Double Patenting

Claims 1, 12 and 29 are provisionally rejected for nonstatutory obviousness type double patenting based on claims 1, 3 and 12 copending application no. 11/102,422. The Office contends that "claims 1, 12 and 29 of the instant application substantially recite the limitations of claims 1, 3 and 12 of the cited copending Application". Applicants respectfully disagree.

The claims of the present invention bear little resemblance to the claims of copending application no. 11/102,422 and certainly are patentably distinct from the claims in that application. Copending application no. 11/102,422 is generally directed to using a network server to proxy application-initiated requests to access APIs of a storage server. This functionality is reflected in claim 1 of that application by the limitation, "using the network server to proxy requests to access individual APIs of the storage server"

The claims of the present invention, on the other hand, do not recite or relate to proxying requests to a storage server, much less proxying requests to access APIs of a storage server by an application. The present invention relates to a storage server invoking a policy engine in response to a request that the storage server receives from a client, and then responding to the client based on the policy engine's response.

Applicants respectfully submit that the Office's assertion that "claims 1, 12 and 29 of the present application "substantially recite the limitations of" claims 1, 3 and 12 of the cited copending Application" is clearly incorrect. Applicants respectfully request that the rejection be withdrawn, or otherwise, that the Office provide a detailed explanation of how all of the claim limitations in each of the rejected claims map to corresponding limitations in the copending application.

Prior Art Rejections

Claim 1

Claim 1 recites:

1. (Original) A method of operating a storage server, the method comprising:

receiving at the storage server, from a client, a first request to perform a storage-related operation relating to a set of data;
generating a second request in the storage server if the first request satisfies a defined criterion;
sending the second request and information relating to the set of data from the storage server to a policy engine;
receiving at the storage server, from the policy engine, a first response indicating a result of the policy engine having implemented a defined policy based on the information relating to the set of data; and
sending a second response in accordance with the first response from the storage server to the client. (Emphasis added.)

Theimer is directed to a technique by which a client can authorize one or more intermediary devices to access a server on the client's behalf. The technique involves the client creating one or more access control programs (ACPs), which contain specifications of delegated access rights. When a server receives a request from an intermediary, the server executes the appropriate ACP to determine whether or not to grant the request.

Theimer does not disclose or suggest the present invention as recited in claim 1, however, particularly the limitations emphasized above in bold. It is noted that the Office interprets the intermediary in Theimer as the "client" of claim 1 and interprets the server in Theimer as the "policy engine" in claim 1 (see Office Action, p. 3, sixth and seventh line from bottom of page).

First, regarding the limitation "sending the second request and information relating to the set of data from the storage server to a policy engine," the Office contends that Theimer discloses this functionality at col. 15, lines 17-19 (Office Action, p. 4). Applicants respectfully disagree. The cited section in Theimer appears to have little if any relevance to the limitation in question. The cited section relates to "revocation objects", which are used by clients to revoke access privileges from

intermediaries. Col. 15, lines 17-19 discuss how an allocation policy can be established to determine how many revocation objects any given client can have with respect to the server. However, there is no suggestion in that section, or anywhere else in Theimer, of sending a request ("second request" in claim 1) and information relating to the set of data from a storage server to a policy engine. In Theimer, the server itself evaluates a revocation object and executes an ACP. As for Theimer's discussion of an allocation policy, note that Theimer does not disclose or suggest that an allocation policy is ever invoked in response to a request from an intermediary (which the Office interprets as the "client" of claim 1); therefore, the act of invoking an allocation policy in Theimer cannot be read on the above-mentioned "sending . . ." limitation in claim 1.

Thus, Theimer does not disclose or suggest "sending the second request and information relating to the set of data from the storage server to a policy engine." Therefore, claim 1 and all claims which depend on it are thought to be patentable over the cited art for at least this reason.

Second, Theimer also does not disclose or suggest "receiving at the storage server, from the policy engine, a first response indicating a result of the policy engine having implemented a defined policy based on the information relating to the set of data" (emphasis added). The Office cites the same section of Theimer as mentioned above (col. 15, lines 17-19). However, that section is equally irrelevant to this claim limitation, for the reasons discussed in the preceding two paragraphs.

Claim 18

Claim 18 recites:

18. (Original) A method of operating a policy engine, the method comprising:

receiving at the policy engine, from a storage server, a first request and information relating to a set of data, the first request being in response to a storage-related client request received by the storage server from a client and relating to the set of data;

applying a defined policy in the policy engine using the information relating to a set of data; and

sending a first response from the policy engine to the storage server to indicate a result of applying the defined policy, the first response to cause the storage server to send a second response to the client in accordance with the first response. (Emphasis added.)

Theimer does not disclose or suggest the present invention as recited in claim

18, particularly receiving at a policy engine, from a storage server, a ("first") request and information relating to a set of data, nor sending a ("first") response from the policy engine to the storage server to indicate a result of applying the defined policy. In Theimer, the server itself evaluates a revocation object and executes an ACP, as noted above (see remarks about claim 1). Therefore, claim 18 and all claims which depend on it are thought to be patentable over the cited art for at least this reason.

Claim 34

Claim 34 recites:

34. (Original) A storage system comprising:

a storage server to provide a client with access via a network to data in a mass storage facility, the storage server configured to receive from the client a first request to perform a storage-related operation relating to a set of data managed or to be managed by the storage server, and to generate a second request if the first request satisfies a defined criterion; and

a remote policy engine coupled to the storage server to receive the second request and information relating to the set of data from the storage server, the remote policy engine configured to approve or deny the second request by implementing a defined policy using the information relating to the set of data, **to send a first response to the storage server based on a result of implementing the defined policy**,

the storage server further configured to send a second response to the client in accordance with the first response. (Emphasis added.)

Theimer does not disclose or suggest the present invention as recited in claim 34, particularly a remote policy engine coupled to a storage server to receive a ("second") request and information relating to the set of data from a storage server, and to send a ("first") response to the storage server based on a result of implementing the defined policy. In Theimer, the server itself evaluates a revocation object and executes an ACP, as noted above (see remarks about claim 1). Therefore, claim 34 and all claims which depend on it are thought to be patentable over the cited art for at least this reason.

Claim 47

Claim 47 recites:

47. (Original) A storage system comprising:
 a plurality of storage servers, each to provide a set of clients with access to corresponding stored data; and
 a policy engine **to receive requests from each of the storage servers**, each request being based on a previous storage-related request received by one of the storage servers from a client, the policy engine configured to respond to each request by implementing one or more of a set of defined storage-related policies and to send a response to a requesting storage server based on a result of implementing the defined policy, **wherein one or more of the policies are specific to a particular storage server**, and wherein the storage servers respond to the storage-related requests from clients in a manner synchronous with the responses from the policy engine. (Emphasis added.)

The remarks above regarding claims 1, 18 and 34 also generally apply to claim 47.

In addition, the cited art is not seen to disclose, per claim 47, a policy engine receiving requests from each of a plurality of storage servers, and which responds to

each request by implementing one or more defined storage-related policies, wherein one or more of the policies are specific to a particular storage server.

In the Office Action, the rejection of claim 47 is explained only as a group rejection of claims 34-41, 43-45 and 47, based on the same rationale as claims 1, 4-7, 9, 29, 30, 14, 15 and 31 (Office Action, page 17). However, it is unclear which claim rejection/rationale the Office is using to reject claim 47; Applicants guess that the Office is comparing claim 31 to claim 47, although it appears to Applicants that those two claims are not similar. In any event, Applicants respectfully submit that the limitations mentioned above are not disclosed or suggested in Theimer. Therefore, claim 47 and all claims which depend on it are thought to be patentable over the cited art for at least this reason. If this rejection is to be maintained, Applicants respectfully request that the Office clearly explain in the next Office Action how the cited art is being applied to this particular claim.

Claim 48

Claim 48 recites:

48. (Currently amended) A method of operating a storage server, the method comprising:
 receiving at the storage server, from a client, a request to perform a storage-related operation relating to a set of data;
 if the first request satisfies a defined criterion, then operating the storage server to invoke a policy engine configured to determine a disposition of the request;
 receiving at the storage server a response from the policy engine indicating a disposition of the request, **the policy engine being external to the storage server**; and
 responding to the request in accordance with the response from the policy engine. (Emphasis added.)

Theimer does not disclose or suggest the present invention as recited in claim 48, particularly where a storage server receives a response from a policy engine that is external to the storage server. Note that claim 48 has been amended essentially to incorporate the limitations of dependent claim 49 (now canceled). In rejecting claim 49, the Office cited Theimer at col. 14, lines 30-32 as allegedly disclosing that the policy engine is external to the storage server (Office Action, p. 17). However, that section, which relates to revocation objects, merely states that if an ACP can be used on multiple servers, then the ACP must be able to read a revocation object stored on a remote server, or the revocation object must be replicated across servers. That disclosure does not amount to any teaching or even a suggestion of a policy engine being external to the server. Note that a revocation object is not a policy engine, it is just a set of data.

Therefore, claim 48 is thought to be patentable over the cited art for at least this reason.

Applicants have not necessarily discussed here every reason why every pending independent claim is patentable over the cited art; nonetheless, Applicants are not waiving any argument regarding any such reason or reasons. Applicants reserve the right to raise any such additional argument(s) during the future prosecution of this application, if Applicants deem it necessary or appropriate to do so.

Dependent Claims

In view of the above remarks, a specific discussion of the dependent claims is considered to be unnecessary. Therefore, Applicants' silence regarding any dependent claim is not to be interpreted as agreement with, or acquiescence to, the rejection of such claim or as waiving any argument regarding that claim.


Conclusion

For the foregoing reasons, the present application is believed to be in condition for allowance, and such action is earnestly requested.

If there are any additional charges/credits, please charge/credit our deposit account no. 02-2666.

Respectfully submitted,
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